

Complete Summary

GUIDELINE TITLE

ACR Appropriateness Criteria™ for pre-treatment staging of colorectal cancer.

BIBLIOGRAPHIC SOURCE(S)

Megibow AJ, Ralls PW, Balfe DM, Bree RL, DiSantis DJ, Glick SN, Levine MS, Saini S, Shuman WP, Greene FL, Laine LA, Lillemoe K, Mezwa D. Pre-treatment staging of colorectal cancer. American College of Radiology. ACR Appropriateness Criteria. Radiology 2000 Jun; 215(Suppl): 135-42. [55 references]

COMPLETE SUMMARY CONTENT

SCOPE
 METHODOLOGY - including Rating Scheme and Cost Analysis
 RECOMMENDATIONS
 EVIDENCE SUPPORTING THE RECOMMENDATIONS
 BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS
 QUALIFYING STATEMENTS
 IMPLEMENTATION OF THE GUIDELINE
 INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT
 CATEGORIES
 IDENTIFYING INFORMATION AND AVAILABILITY

SCOPE

DISEASE/CONDITION(S)

Colorectal cancer

GUIDELINE CATEGORY

Diagnosis
 Evaluation

CLINICAL SPECIALTY

Colon and Rectal Surgery
 Oncology
 Radiology

INTENDED USERS

Health Plans
 Hospitals

Managed Care Organizations
Physicians
Utilization Management

GUIDELINE OBJECTIVE(S)

To evaluate the appropriateness of initial radiologic examinations for pre-treatment staging of colorectal cancer

TARGET POPULATION

Patients with colorectal cancer

INTERVENTIONS AND PRACTICES CONSIDERED

1. Ultrasound
 - Transrectal
 - Abdominal
2. Plain radiograph – chest x-ray
3. Computed tomography
 - Abdomen
 - Pelvis
4. Magnetic resonance imaging
 - Endorectal coil
 - Abdomen
 - Pelvis
 - Whole body
5. Intravenous pyelography
6. Barium enema

MAJOR OUTCOMES CONSIDERED

Utility of radiologic examinations in pre-treatment staging of colorectal cancer

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developer performed literature searches of recent peer-reviewed medical journals, primarily using the National Library of Medicine's MEDLINE database. The developer identified and collected the major applicable articles.

NUMBER OF SOURCE DOCUMENTS

The total number of source documents identified as the result of the literature search is not known.

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus (Delphi Method)
Weighting According to a Rating Scheme (Scheme Not Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

One or two topic leaders within a panel assume the responsibility of developing an evidence table for each clinical condition, based on analysis of the current literature. These tables serve as a basis for developing a narrative specific to each clinical condition.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus (Delphi)

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Since data available from existing scientific studies are usually insufficient for meta-analysis, broad-based consensus techniques are needed to reach agreement in the formulation of the Appropriateness Criteria. Serial surveys are conducted by distributing questionnaires to consolidate expert opinions within each panel. These questionnaires are distributed to the participants along with the evidence table and narrative as developed by the topic leader(s). Questionnaires are completed by the participants in their own professional setting without influence of the other members. Voting is conducted using a scoring system from 1-9, indicating the least to the most appropriate imaging examination or therapeutic procedure. The survey results are collected, tabulated in anonymous fashion, and redistributed after each round. A maximum of three rounds is conducted and opinions are unified to the highest degree possible. Eighty (80) percent agreement is considered a consensus. If consensus cannot be reached by this method, the panel is convened and group consensus techniques are utilized. The strengths and weaknesses of each test or procedure are discussed and consensus reached whenever possible.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Criteria developed by the Expert Panels are reviewed by the American College of Radiology (ACR) Committee on Appropriateness Criteria and the Chair of the ACR Board of Chancellors.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

ACR Appropriateness Criteria™

Clinical Condition: Pre-Treatment Staging of Colorectal Cancer

Variant 1: Rectal cancer (small or superficial).

Radiologic Exam Procedure	Appropriateness Rating	Comments
Ultrasound		
Transrectal	8	
Abdominal	2	
Plain radiograph - chest x-ray	8	
Computed Tomography		
Abdomen	6	
Pelvis	6	
Magnetic Resonance Imaging		
Endorectal coil	6	
Abdomen	4	To be done if computed tomography cannot be performed, i.e., because of iodine allergy.
Pelvis	3	
Whole body	2	

Intravenous pyelography	2	
Barium enema	No Consensus	Although no consensus could be reached, the panel agrees that the whole colon should be examined and the barium enema is an appropriate choice.
<p align="center"><u>Appropriateness Criteria Scale</u></p> <p align="center">1 2 3 4 5 6 7 8 9</p> <p align="center">1=Least appropriate 9=Most appropriate</p>		

Variant 2: Rectal cancer - large lesion.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Computed Tomography		
Abdomen	8	
Pelvis	8	
Plain radiograph - Chest x-ray	8	
Magnetic Resonance Imaging		
Abdomen	6	To be done if computed tomography cannot be performed, i.e., because of iodine allergy.
Pelvis	6	
Endorectal coil	5	
Whole body	2	
Ultrasound		
Transrectal	6	
Abdominal	4	
Intravenous pyelography	2	
Barium enema	No Consensus	Although no consensus could be reached, the panel agrees that the whole colon should be examined and the barium enema is an appropriate choice.

<u>Appropriateness Criteria Scale</u>		
1 2 3 4 5 6 7 8 9		
1=Least appropriate 9=Most appropriate		

Variant 3: Colon cancer (other than rectum).

Radiologic Exam Procedure	Appropriateness Rating	Comments
Computed Tomography		
Abdomen	8	
Pelvis	8	
Plain radiograph - Chest x-ray	8	
Magnetic Resonance Imaging		
Abdomen	6	To be done if computed tomography cannot be performed, i.e., because of iodine allergy.
Pelvis	6	
Ultrasound, abdominal	4	
Intravenous pyelography	2	
Barium enema	No Consensus	Although no consensus could be reached, the panel agrees that the whole colon should be examined and the barium enema is an appropriate choice.
<u>Appropriateness Criteria Scale</u> 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Excerpted by the National Guideline Clearinghouse (NGC).

On the basis of currently available results, abdominal/pelvic computed tomography remains the procedure of choice for preoperative assessment of the abdomen and retroperitoneum of patients with colonic neoplasms because of its high negative predictive value and because of its increasing accuracy in advanced disease. Routine computed tomography staging is not recommended for primary

colonic tumors. Computed tomography is sufficient to screen for local extension and distant metastases, because staging is less important. Detection of pathologic lymphadenopathy remains a difficult problem. Unless there are local treatment plans that offer nonsurgical excision for localized rectal cancer, or preoperative irradiation for locally transmural rectal cancer, computed tomography will be sufficient to preoperatively evaluate these patients as well.

Magnetic resonance imaging may be beneficial in determining involvement of the pelvic musculature and adjacent organs. Magnetic resonance may be considered in preoperative evaluation of patients with a sensitivity to iodinated contrast material, particularly in the evaluation of the liver. Intravenous contrast-enhanced magnetic resonance, augmented with endorectal coils, is an appropriate primary strategy in patients with rectal cancer.

On the basis of currently available results, routine computed tomography staging is not recommended for primary colorectal tumors; however, computed tomography is the procedure of choice for preoperative global assessment of the abdomen and retroperitoneum because of its high negative predictive value and because of its increasing accuracy in advanced disease. In patients with colonic neoplasm, computed tomography is sufficient to screen for local extension and distant metastases, because staging is less important. Detection of nodes involved with tumor remains a difficult problem. If a colonic resection is planned, local node groups are encompassed in a properly performed cancer operation. Transrectal ultrasound may be used to determine local tumor extent; however, up to 14 % of patients with locally limited tumors confined to the bowel wall may have regional node metastases. Although transrectal ultrasound can frequently detect regional lymph nodes and is superior to computed tomography at this task, to date, it cannot predict the histology of the visualized lymph nodes.

Magnetic resonance imaging may be beneficial in determining involvement of the pelvic musculature and adjacent organs. It is possible that endorectal coils and contrast-enhanced magnetic resonance imaging could improve staging of colorectal tumors. Magnetic resonance imaging holds promise in the evaluation of perirectal nodes and offers comparable results with computed tomography in the liver. Newer studies are necessary to reassess the utility of newer breath-hold magnetic resonance sequences. While magnetic resonance imaging may offer other advantages over computed tomography in patients with primary colorectal cancer, it is uncertain and more comprehensive studies are needed.

CLINICAL ALGORITHM(S)

Algorithms were not developed from criteria guidelines.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The recommendations are based on analysis of the current literature and expert panel consensus.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Selection of appropriate radiologic imaging procedures for pre-treatment staging of colorectal cancer.

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

An American College of Radiology (ACR) Committee on Appropriateness Criteria and its expert panels have developed criteria for determining appropriate imaging examinations for diagnosis and treatment of specified medical condition(s). These criteria are intended to guide radiologists, radiation oncologist, and referring physicians in making decisions regarding radiologic imaging and treatment. Generally, the complexity and severity of a patient's clinical condition should dictate the selection of appropriate imaging procedures or treatments. Only those exams generally used for evaluation of the patient's condition are ranked. Other imaging studies necessary to evaluate other co-existent diseases or other medical consequences of this condition are not considered in this document. The availability of equipment or personnel may influence the selection of appropriate imaging procedures or treatments. Imaging techniques classified as investigational by the U.S. Food and Drug Administration (FDA) have not been considered in developing these criteria; however, study of new equipment and applications should be encouraged. The ultimate decision regarding the appropriateness of any specific radiologic examination or treatment must be made by the referring physician and radiologist in light of all the circumstances presented in an individual examination.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Megibow AJ, Ralls PW, Balfe DM, Bree RL, DiSantis DJ, Glick SN, Levine MS, Saini S, Shuman WP, Greene FL, Laine LA, Lillemoe K, Mezwa D. Pre-treatment staging of colorectal cancer. American College of Radiology. ACR Appropriateness Criteria. Radiology 2000 Jun; 215(Suppl): 135-42. [55 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1996 (revised 1999)

GUIDELINE DEVELOPER(S)

American College of Radiology - Medical Specialty Society

SOURCE(S) OF FUNDING

The American College of Radiology (ACR) provided the funding and the resources for these ACR Appropriateness Criteria.™

GUIDELINE COMMITTEE

ACR Appropriateness Criteria™ Committee, Expert Panel on Gastrointestinal Imaging.

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Names of Panel Members: Alec J. Megibow, MD, MPH; Philip W. Ralls, MD; Dennis M. Balfe, MD; Robert L. Bree, MD; David J. DiSantis, MD; Seth N. Glick, MD; Marc S. Levine, MD; Sanjay Saini, MD; William P. Shuman, MD; Frederick Leslie Greene, MD; Loren A. Laine, MD; Keith Lillemoe, MD; Duane Mezwa, MD

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline. It is a revision of a previously issued version (Appropriateness criteria for pre-treatment staging of colorectal cancer.

Reston [VA]: American College of Radiology (ACR); 1996. 8 p. [ACR Appropriateness Criteria™].

The ACR Appropriateness Criteria™ are reviewed after five years, if not sooner, depending upon introduction of new and highly significant scientific evidence. The next review date for this topic is 2004.

GUIDELINE AVAILABILITY

Electronic copies: Available from the [American College of Radiology \(ACR\) Web site](#).

Print copies: Available from ACR, 1891 Preston White Drive, Reston, VA 20191. Telephone: (703) 648-8900.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on March 19, 2001. The information was verified by the guideline developer on March 29, 2001.

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